

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Cancelled)
2. (Withdrawn) A method in accordance with claim 38, wherein said gas discharge lamp is a compact gas discharge lamp.
- 3-6. (Cancelled)
7. (Withdrawn) A method in accordance with claim 38, wherein:
said measured lamp parameter is a value of elapsed time; and
said threshold lamp parameter is a predetermined amount of time.
8. (Withdrawn) A method in accordance with claim 38, wherein said low lamp light output level is equal to or less than approximately 1 percent of a full rated lamp light output level.
9. (Withdrawn) A method in accordance with claim 38, wherein said intermediate lamp light output level is within a range of greater than 1 percent to approximately 5 percent of a full rated lamp light output level.
- 10-12. (Cancelled)
13. (Currently Amended) A ballast in accordance with claim 45, wherein said gas discharge lamp is a compact gas discharge lamp having at least one small radius allowing said compact gas discharge lamp to fold back on itself.
14. (Cancelled)
15. (Previously Presented) A ballast in accordance with claim 45, wherein:
said measured lamp parameter is a value of elapsed time; and
said threshold lamp parameter is a predetermined amount of time.

16-18. (Cancelled)

19. (Currently Amended) A light fixture in accordance with claim 54, wherein said gas discharge lamp is a compact gas discharge lamp having at least one small radius allowing said compact gas discharge lamp to fold back on itself.

20. (Cancelled)

21. (Previously Presented) A light fixture in accordance with claim 54, wherein:
said measured lamp parameter is a value of elapsed time; and
said threshold lamp parameter is a predetermined amount of time.

22-24. (Cancelled)

25. (Withdrawn) A method in accordance with claim 63, wherein said gas discharge lamp is a compact gas discharge lamp.

26. (Cancelled)

27. (Withdrawn) A method in accordance with claim 63, wherein:
said measured lamp parameter is a value of elapsed time; and
said threshold lamp parameter is a predetermined amount of time.

28-30. (Cancelled)

31. (Withdrawn) A computer-readable medium in accordance with claim 72, wherein said gas discharge lamp is a compact gas discharge lamp.

32. (Cancelled)

33. (Withdrawn) A computer-readable medium in accordance with claim 72, wherein:
said measured lamp parameter is a value of elapsed time; and
said threshold lamp parameter is a predetermined amount of time.

34. (Withdrawn) A computer-readable medium in accordance with claim 72, wherein said low lamp light output level is equal to or less than approximately 1 percent of a full rated lamp light output level.

35. (Withdrawn) A computer-readable medium in accordance with claim 72, wherein said intermediate lamp light output level is within a range of greater than 1 percent to approximately 5 percent of a full rated lamp light output level.

36-37. (Cancelled)

38. (Withdrawn) A method for stably dimming a lamp light output level of a gas discharge lamp to a low lamp light output level without observable flicker, said method comprising:

receiving a signal indicative of a request to reduce said lamp light output level to said low lamp light output level;

comparing a measured value of a lamp parameter with a threshold value of said lamp parameter; and

in accordance with a result of said comparison, performing one of:

(a) reducing the lamp light output level to the low lamp light output level; and

(b) reducing the lamp light output level to an intermediate lamp light output level and subsequently reducing the lamp light output level to the low lamp light output level.

39. (Withdrawn) A method in accordance with claim 38, wherein said lamp parameter is indicative of a lamp arc voltage of said lamp, said method further comprising:

performing step (a) if the measured value of the lamp parameter is greater than or equal to the threshold value of the lamp parameter; and

performing step (b) if the measured value of the lamp parameter is less than the threshold value of the lamp parameter.

40. (Withdrawn) A method in accordance with claim 39, wherein step (b) is performed in response to said measured value of the lamp parameter becoming greater than or equal to the threshold value of the lamp parameter.

41. (Withdrawn) A method in accordance with claim 38, wherein said lamp parameter is indicative of one of a temperature of said lamp, a lamp arc current of said lamp, and a lamp arc power of said lamp, said method further comprising:

performing step (a) if the measured value of the lamp parameter is less than the threshold value of the lamp parameter; and

performing step (b) if the measured value of the lamp parameter is greater than or equal to the threshold value of the lamp parameter.

42. (Withdrawn) A method in accordance with claim 41, wherein step (b) is performed in response to said measured value of said lamp parameter becoming less than said threshold value of said lamp parameter.

43. (Withdrawn) A method in accordance with claim 38, wherein reducing the lamp light output level comprises decreasing a value of minimum lamp arc current.

44. (Withdrawn) A method in accordance with claim 38, wherein said lamp light output level is controlled by controlling at least one of a lamp arc voltage, a lamp arc current, and a lamp arc power.

45. (Previously Presented) A ballast for stably dimming a lamp light output level of a gas discharge lamp to a low lamp light output level without observable flicker, said ballast comprising:

a comparator circuit for:

comparing a measure signal indicative of a measured value of a lamp parameter with a threshold signal indicative of a threshold value of said lamp parameter; and

providing a compare signal indicative of said comparison; and

a clamp circuit for:

receiving said compare signal; and

providing a clamp signal indicative of a result of said comparison; and

a control circuit for:

receiving said clamp signal; and

in accordance with said clamp signal,

reducing the lamp light output level to an intermediate lamp light output level and subsequently reducing the lamp light output level to the low lamp light output level.

46. (Previously Presented) A ballast in accordance with claim 45, wherein:

said lamp parameter is indicative of a lamp arc voltage of said lamp;

said lamp light output level is reduced to said low lamp light output level if the measured value of the lamp parameter is greater than or equal to the threshold value of the lamp parameter; and

said lamp light output level is reduced to said intermediate lamp light output level if the measured value of the lamp parameter is less than the threshold value of the lamp parameter.

47. (Previously Presented) A ballast in accordance with claim 46, wherein:

said lamp light output level is reduced to said intermediate lamp light output level and subsequently reduced to said low lamp light output level in response to said measured value of the lamp parameter becoming greater than or equal to the threshold value of the lamp parameter.

48. (Previously Presented) A ballast in accordance with claim 45, wherein:

said lamp parameter is indicative of one of a temperature of said lamp, a lamp arc current of said lamp, and a lamp arc power of said lamp;

said lamp light output level is reduced to said low lamp light output level if the measured value of the lamp parameter is less than the threshold value of the lamp parameter; and

said lamp light output level is reduced to said intermediate lamp light output level if the measured value of the lamp parameter is greater than or equal to the threshold value of the lamp parameter.

49. (Previously Presented) A ballast in accordance with claim 48, wherein:

said lamp light output level is reduced to said intermediate lamp light output level and subsequently reduced to said low lamp light output level in response to said measured value of the lamp parameter becoming less than the threshold value of the lamp parameter.

50. (Previously Presented) A ballast in accordance with claim 45, wherein said low lamp light output level is equal to or less than approximately 1 percent of a full rated lamp light output level.

51. (Previously Presented) A ballast in accordance with claim 45, wherein said intermediate lamp light output level is within a range of greater than 1 percent to approximately 5 percent of a full rated lamp light output level.

52. (Previously Presented) A ballast in accordance with claim 45, wherein reducing the lamp light output level comprises decreasing a value of minimum lamp arc current.

53. (Previously Presented) A ballast in accordance with claim 45, wherein said lamp light output level is controlled by controlling at least one of a lamp arc voltage, a lamp arc current, and a lamp arc power.

54. (Previously Presented) A light fixture for stably dimming a lamp light output level of a gas discharge lamp to a low lamp light output level without observable flicker, said light fixture comprising:

a ballast comprising:

a comparator circuit for:

comparing a measure signal indicative of a measured value of a lamp parameter with a threshold signal indicative of a threshold value of said lamp parameter; and

providing a compare signal indicative of said comparison; and

a clamp circuit for:

receiving said compare signal; and

providing a clamp signal indicative of a result of said comparison; and

a control circuit for:

receiving said clamp signal; and

in accordance with said clamp signal,

reducing the lamp light output level to an intermediate lamp light output level and subsequently reducing the lamp light output level to the low lamp light output level.

55. (Previously Presented) A light fixture in accordance with claim 54, wherein:

said lamp parameter is indicative of a lamp arc voltage of said lamp;

said lamp light output level is reduced to said low lamp light output level if the measured value of the lamp parameter is greater than or equal to the threshold value of the lamp parameter; and

said lamp light output level is reduced to said intermediate lamp light output level if the measured value of the lamp parameter is less than the threshold value of the lamp parameter.

56. (Previously Presented) A light fixture in accordance with claim 55, wherein:

said lamp light output level is reduced to said intermediate lamp light output level and subsequently reduced to said low lamp light output level in response to said measured value of the lamp parameter becoming greater than or equal to the threshold value of the lamp parameter.

57. (Previously Presented) A light fixture in accordance with claim 54, wherein:

said lamp parameter is indicative of one of a temperature of said lamp, a lamp arc current of said lamp, and a lamp arc power of said lamp;

said lamp light output level is reduced to said low lamp light output level if the measured value of the lamp parameter is less than the threshold value of the lamp parameter; and

said lamp light output level is reduced to said intermediate lamp light output level if the measured value of the lamp parameter is greater than or equal to the threshold value of the lamp parameter.

58. (Previously Presented) A light fixture in accordance with claim 57, wherein:

said lamp light output level is reduced to said intermediate lamp light output level and subsequently reduced to said low lamp light output level in response to said measured value of the lamp parameter becoming less than the threshold value of the lamp parameter.

59. (Previously Presented) A light fixture in accordance with claim 54, wherein said low lamp light output level is equal to or less than approximately 1 percent of a full rated lamp light output level.

60. (Previously Presented) A light fixture in accordance with claim 54, wherein said intermediate lamp light output level is within a range of greater than 1 percent to approximately 5 percent of a full rated lamp light output level.

61. (Previously Presented) A light fixture in accordance with claim 54, wherein reducing the lamp light output level comprises decreasing a value of minimum lamp arc current.

62. (Previously Presented) A light fixture in accordance with claim 54, wherein said lamp light output level is controlled by controlling at least one of a lamp arc voltage, a lamp arc current, and a lamp arc power.

63. (Withdrawn) A method for assembling a light fixture for stably dimming a lamp light output level of a gas discharge lamp to a low lamp light output level without observable flicker, said method comprising:

providing a light fixture;

assembling into said light fixture a ballast that operates to:

receive a signal indicative of a request to reduce said lamp light output level to said low lamp light output level;

compare a measured value of a lamp parameter with a threshold value of said lamp parameter; and

in accordance with a result of said comparison, perform one of:

(a) reduce the lamp light output level to the low lamp light output level; and

(b) reduce the lamp light output level to an intermediate lamp light output level and subsequently reducing the lamp light output level to the low lamp light output level.

64. (Withdrawn) A method in accordance with claim 63, wherein said lamp parameter is indicative of a lamp arc voltage of said lamp, said ballast further operating to:

perform (a) if the measured value of the lamp parameter is greater than or equal to the threshold value of the lamp parameter; and

perform (b) if the measured value of the lamp parameter is less than the threshold value of the lamp parameter.

65. (Withdrawn) A method in accordance with claim 64, wherein (b) is performed in response to said measured value of the lamp parameter becoming greater than or equal to the threshold value of the lamp parameter.

66. (Withdrawn) A method in accordance with claim 63, wherein said lamp parameter is indicative of one of a temperature of said lamp, a lamp arc current of said lamp, and a lamp arc power of said lamp, said ballast further operating to:

perform (a) if the measured value of the lamp parameter is less than the threshold value of the lamp parameter; and

perform (b) if the measured value of the lamp parameter is greater than or equal to the threshold value of the lamp parameter.

67. (Withdrawn) A method in accordance with claim 66, wherein (b) is performed in response to said measured value of said lamp parameter becoming less than said threshold value of said lamp parameter.

68. (Withdrawn) A method in accordance with claim 63, wherein said low lamp light output level is equal to or less than approximately 1 percent of a full rated lamp light output level.

69. (Withdrawn) A method in accordance with claim 63, wherein said intermediate lamp light output level is within a range of greater than 1 percent to approximately 5 percent of a full rated lamp light output level.

70. (Withdrawn) A method in accordance with claim 63, wherein reducing the lamp light output level comprises decreasing a value of minimum lamp arc current.

71. (Withdrawn) A method in accordance with claim 63, wherein said lamp light output level is controlled by controlling at least one of a lamp arc voltage, a lamp arc current, and a lamp arc power.

72. (Withdrawn) A computer-readable medium encoded with a computer program code for directing a computer processor to stably dim a lamp light output level of a gas discharge lamp to a low lamp light output level without observable flicker, said program code comprising:

a receive code segment for causing said computer processor to receive a signal indicative of a request to reduce said lamp light output level to said low lamp light output level;

a compare code segment for causing said computer processor to compare a measured value of a lamp parameter with a threshold value of said lamp parameter; and

a reduce lamp light level code segment for, in accordance with a result of said comparison, causing one of:

 said computer processor to reduce the lamp light output level to the low lamp light output level; and

 said computer processor to reduce the lamp light output level to an intermediate lamp light output level and subsequently reducing the lamp light output level to the low lamp light output level, wherein said intermediate lamp light output level is greater than said low lamp light output level.

73. (Withdrawn) A computer-readable medium in accordance with claim 72, wherein:

said lamp parameter is indicative of a lamp arc voltage of said lamp;

said computer processor is caused to reduce the lamp light output level to the low lamp light output level if the measured value of the lamp parameter is greater than or equal to the threshold value of the lamp parameter; and

said computer processor is caused to reduce the lamp light output level to an intermediate lamp light output level and subsequently to the low lamp light output level if the measured value of the lamp parameter is less than the threshold value of the lamp parameter.

74. (Withdrawn) A computer-readable medium in accordance with claim 73, wherein said computer processor is caused to reduce the lamp light output level to an intermediate lamp light output level and subsequently to the low lamp light output level in response to said measured value of the lamp parameter becoming greater than or equal to the threshold value of the lamp parameter.

75. (Withdrawn) A computer-readable medium in accordance with claim 72, wherein:

said lamp parameter is indicative of one of a temperature of said lamp, a lamp arc current of said lamp, and a lamp arc power of said lamp;

said computer processor is caused to reduce the lamp light output level to the low lamp light output level if the measured value of the lamp parameter is less than the threshold value of the lamp parameter; and

said computer processor is caused to reduce the lamp light output level to an intermediate lamp light output level and subsequently to the low lamp light output level if the measured value of the lamp parameter is greater than or equal to the threshold value of the lamp parameter.

76. (Withdrawn) A computer-readable medium in accordance with claim 75 wherein said computer processor is caused to reduce the lamp light output level to an intermediate lamp light output level and subsequently to the low lamp light output level in response to said

measured value of said lamp parameter becoming less than said threshold value of said lamp parameter.

77. (Withdrawn) A computer-readable medium in accordance with claim 72, wherein reducing the lamp light output level comprises decreasing a value of minimum lamp arc current.

78. (Withdrawn) A computer-readable medium in accordance with claim 72, wherein said lamp light output level is controlled by controlling at least one of a lamp arc voltage, a lamp arc current, and a lamp arc power.

79. (New) A ballast for stably dimming a lamp light output level of a gas discharge lamp to a low lamp light output level without observable flicker, said ballast comprising:

a comparator circuit for:

comparing a measure signal indicative of a measured value of elapsed time with a threshold signal indicative of a predetermined amount of time; and

providing a compare signal indicative of said comparison; and

a clamp circuit for:

receiving said compare signal; and

providing a clamp signal indicative of a result of said comparison; and

a control circuit for:

receiving said clamp signal; and

in accordance with said clamp signal,

reducing the lamp light output level to an intermediate lamp light output level and subsequently reducing the lamp light output level to the low lamp light output level.

80. (New) A light fixture for stably dimming a lamp light output level of a gas discharge lamp to a low lamp light output level without observable flicker, said light fixture comprising:

a ballast comprising:

a comparator circuit for:

comparing a measure signal indicative of a measured value of elapsed time with a threshold signal indicative of a predetermined amount of time; and

providing a compare signal indicative of said comparison; and

a clamp circuit for:

receiving said compare signal; and

providing a clamp signal indicative of a result of said comparison; and

a control circuit for:

receiving said clamp signal; and

in accordance with said clamp signal,

reducing the lamp light output level to an intermediate lamp light output level and subsequently reducing the lamp light output level to the low lamp light output level.

81. (New) A ballast for stably dimming a lamp light output level of a gas discharge lamp to a low lamp light output level without observable flicker, said ballast comprising:

a comparator circuit for:

comparing a measure signal indicative of a measured value of a lamp arc voltage with a threshold signal indicative of a threshold value of said lamp arc voltage; and

providing a compare signal indicative of said comparison; and

a clamp circuit for:

receiving said compare signal; and

providing a clamp signal indicative of said measured value of said lamp arc voltage being greater than or equal to the threshold value of the lamp arc voltage; and

a control circuit for:

receiving said clamp signal; and

in accordance with said clamp signal,

reducing the lamp light output level to an intermediate lamp light output level and subsequently reducing the lamp light output level to the low lamp light output level.

82. (New) A ballast in accordance with claim 81, wherein said lamp light output level is reduced to said intermediate lamp light output level and subsequently reduced to said low lamp light output level in response to said measured value of the lamp arc voltage becoming greater than or equal to the threshold value of the lamp arc voltage.

83. (New) A ballast for stably dimming a lamp light output level of a gas discharge lamp to a low lamp light output level without observable flicker, said ballast comprising:

a comparator circuit for:

comparing a measure signal indicative of a measured value of one of a temperature of said lamp, a lamp arc current of said lamp, and a lamp arc

power of said lamp with a threshold signal indicative of a threshold value of one of said temperature of said lamp, said lamp arc current of said lamp, and said lamp arc power of said lamp, respectively; and

providing a compare signal indicative of said comparison; and

a clamp circuit for:

receiving said compare signal; and

providing a clamp signal indicative of a result of said comparison; and

a control circuit for:

receiving said clamp signal; and

in accordance with said clamp signal,

reducing the lamp light output level to an intermediate lamp light output level and subsequently reducing the lamp light output level to the low lamp light output level.

84. (New) A ballast in accordance with claim 83, wherein said lamp light output level is reduced to said intermediate lamp light output level and subsequently reduced to said low lamp light output level in response to said measured value of one of said temperature of said lamp, said lamp arc current of said lamp, and said lamp arc power of said lamp becoming less than the threshold value of one of said temperature of said lamp, said lamp arc current of said lamp, and said lamp arc power of said lamp, respectively.

85. (New) A ballast for stably dimming a lamp light output level of a gas discharge lamp to a low lamp light output level without observable flicker, said ballast comprising:

a comparator circuit for:

comparing a measure signal indicative of a measured value of a lamp parameter with a threshold signal indicative of a threshold value of said lamp parameter; and

providing a compare signal indicative of said comparison; and

a clamp circuit for:

receiving said compare signal; and

providing a clamp signal indicative of a result of said comparison; and

a control circuit for:

receiving said clamp signal; and

in accordance with said clamp signal,

reducing the lamp light output level to an intermediate lamp light output level and subsequently reducing the lamp light output level to the low lamp light output level, wherein said low lamp light output level is equal to or less than approximately 1 percent of a full rated lamp light output level.

86. (New) A ballast for stably dimming a lamp light output level of a gas discharge lamp to a low lamp light output level without observable flicker, said ballast comprising:

a comparator circuit for:

comparing a measure signal indicative of a measured value of a lamp parameter with a threshold signal indicative of a threshold value of said lamp parameter; and

providing a compare signal indicative of said comparison; and

a clamp circuit for:

receiving said compare signal; and

providing a clamp signal indicative of a result of said comparison; and

a control circuit for:

receiving said clamp signal; and

in accordance with said clamp signal,

reducing the lamp light output level to an intermediate lamp light output level and subsequently reducing the lamp light output level to the low lamp light output level, wherein said intermediate lamp light output level is within a range of greater than 1 percent to approximately 5 percent of a full rated lamp light output level.

87. (New) A light fixture for stably dimming a lamp light output level of a gas discharge lamp to a low lamp light output level without observable flicker, said light fixture comprising:

a ballast comprising:

a comparator circuit for:

comparing a measure signal indicative of a measured value of a lamp arc voltage of said lamp with a threshold signal indicative of a threshold value of said lamp arc voltage; and

providing a compare signal indicative of said comparison; and

a clamp circuit for:

receiving said compare signal; and

providing a clamp signal indicative of a result of said comparison; and

a control circuit for:

receiving said clamp signal; and

in accordance with said clamp signal,

reducing said lamp light output level to a low lamp light output level if the measured value of the lamp arc voltage is greater than or equal to the threshold value of the lamp arc voltage; and

reducing said lamp light output level to an intermediate lamp light output level if the measured value of the lamp arc voltage is less than the threshold value of the lamp are voltage.

88. (New) A fixture in accordance with claim 87, wherein:

said lamp light output level is reduced to said intermediate lamp light output level and subsequently reduced to said low lamp light output level in response to said measured value of the lamp arc voltage becoming greater than or equal to the threshold value of the lamp arc voltage.

89. (New) A light fixture for stably dimming a lamp light output level of a gas discharge lamp to a low lamp light output level without observable flicker, said light fixture comprising:

a ballast comprising:

a comparator circuit for:

comparing a measure signal indicative of a measured value of one of a temperature of said lamp, a lamp arc current of said lamp, and a lamp arc power of said lamp with a threshold signal indicative of a threshold value of one of said temperature of said lamp, said lamp arc current of said lamp, and said lamp arc power of said lamp, respectively; and

providing a compare signal indicative of said comparison; and

a clamp circuit for:

receiving said compare signal; and

providing a clamp signal indicative of a result of said comparison; and

a control circuit for:

receiving said clamp signal; and

in accordance with said clamp signal,

reducing said lamp light output level to a low lamp light output level if the measured value of the lamp arc voltage is less than the threshold value of the lamp arc voltage; and

reducing said lamp light output level an intermediate lamp light output level if the measured value of the lamp arc voltage is greater than or equal to the threshold value of the lamp arc voltage.

90. (New) A fixture in accordance with claim 89, wherein:

said lamp light output level is reduced to said intermediate lamp light output level and subsequently reduced to said low lamp light output level in response to said measured value of the lamp arc voltage becoming less than the threshold value of the lamp arc voltage.

91. (New) A light fixture for stably dimming a lamp light output level of a gas discharge lamp to a low lamp light output level without observable flicker, said light fixture comprising:

a ballast comprising:

a comparator circuit for:

comparing a measure signal indicative of a measured value of a lamp parameter with a threshold signal indicative of a threshold value of said lamp parameter; and

providing a compare signal indicative of said comparison; and

a clamp circuit for:

receiving said compare signal; and

providing a clamp signal indicative of a result of said comparison; and

a control circuit for:

receiving said clamp signal; and

in accordance with said clamp signal,

reducing the lamp light output level to an intermediate lamp light output level and subsequently reducing the lamp light output level to the low lamp light output level, wherein said low lamp light output level is equal to or less than approximately 1 percent of a full rated lamp light output level.

92. (New) A light fixture for stably dimming a lamp light output level of a gas discharge lamp to a low lamp light output level without observable flicker, said light fixture comprising:

a ballast comprising:

a comparator circuit for:

comparing a measure signal indicative of a measured value of a lamp parameter with a threshold signal indicative of a threshold value of said lamp parameter; and

providing a compare signal indicative of said comparison; and

a clamp circuit for:

receiving said compare signal; and

providing a clamp signal indicative of a result of said comparison; and

a control circuit for:

receiving said clamp signal; and

in accordance with said clamp signal,

reducing the lamp light output level to an intermediate lamp light output level and subsequently reducing the lamp light output level to the low lamp light output level, wherein said intermediate lamp light output level is within a range of greater than 1 percent to approximately 5 percent of a full rated lamp light output level.